

TRAIL & Landscape

A PUBLICATION CONCERNED WITH
NATURAL HISTORY AND CONSERVATION



TRAIL & LANDSCAPE

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TRAIL *& Landscape*

Published by

THE OTTAWA FIELD-NATURALISTS' CLUB
Box 3264 Postal Station C,
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Return to Earth

Winter passes, snow goes and earth is bare again; life
stirs in every part of nature - are you stirred?

Brooks burble, willows murmur, old cattails rattle ancient
sabres, knowing full well they'll soon be conquered.

A thrush is singing its whole life story. "Hermit", do
you pronounce, quickly snapping shut your mind's
ear and turning off the message? A label can kill
a bird. Next time, listen. Really listen.

Watch a butterfly to discover the rhyme within its
reason, and vice versa. (Or let the butterfly
discover yours.)

Keep an earthworm under surveillance and report its
undercover activities to the proper authority.

Take a break. Take a deep breath.

Now, -- carefully pick off the scales from your eyes,
gently uncork your ears. (Who hath ears to hear,
let him hear.) Remove your shoes and socks, please.

Touch the Earth. Let your self be touched.

Anne Hanes

Spring 1974

DATAFACE TURNING

simple exercises in observation

by F. W. Grimm

"To a person uninstructed in Natural History, his country or seaside stroll is a walk through a gallery filled with wonderful works of art, nine-tenths of which have their faces turned to the wall." T. H. Huxley

INTRODUCTION

Many people in cities have neither time nor transportation to visit what they consider to be "natural" areas, and most schools are not within easy walking distance of woodlots or fields. Teachers who are not experienced in nature study tend to avoid teaching it, and many school science courses are somewhat academic, treating nature study as another province of book learning.

However altered by man, any patch of ground or body of water which contains organisms may be used as a door to direct perception of the basic processes of life. A patch of lawn, a puddle, or a strip of seemingly barren soil contain and support surprisingly diverse living systems, the members of which may fascinate anyone who seeks acquaintance with them. Regardless of where we find ourselves on the face of the earth, we may experience and learn about processes at work in nature. The same processes are at work in multitudes of different ways in all communities and associations of living things. Organisms everywhere function as producers, consumers, and decomposers of other living matter. The differences and similarities between organisms lie in the structural and behavioural adaptations which enable them to perform these functions and to reproduce.

To the layman, understanding the fascinating creatures which make up the strands of the web of life in any one area usually seems to be an insurmountable task. Many persons simply assume that years of biological training are necessary, and for that reason allow their interest to subside. Often it takes years of study simply to be able to name the members of a small group of organisms such as ferns or birds accurately. But it is possible to become intimately acquainted with the lives of many creatures without ever naming them. Being able to "read" a landscape, to compare similar but different creatures, to observe living things and communities of living things with understanding, provides people with a source of interest and wonder which is always at hand. Often, the study of natural history results in an awakening of enthusiasm which lasts a lifetime. A person trained only in the ability to observe living things carefully, patiently, and accurately is provided with a means by which his or her life may be enriched continually. Once such a person begins to seek other person's observations, "scientific" or "technical" knowledge ceases to be as forbidding as it appeared to be. Such knowledge is only as necessary as one wishes it to be. It is by no means prerequisite to an accurate, carefully acquired understanding and appreciation of nature.

Persons who appreciate the beauty of the world around them often feel a loss if they must "study" their experiences. I hope that through some of the following exercises the study and the experience will become one process. Although presented in the form of school assignments, these exercises are designed to encourage both experienced and inexperienced persons to increase their powers of observation and their ability to interpret what is observed. They may be altered to adapt to levels ranging from elementary school to those of professional biologists.

THE SUGGESTIONS

- 1 Mark off a square metre of ground and make a study of all the visible organisms living there. If you do not care to name them, simply sketch each kind and give it a number, so that you may recognize it when you see it again. Take a look beneath the surface of the ground or the litter and see what is there. Observe this small piece of ground at various intervals and record changes.

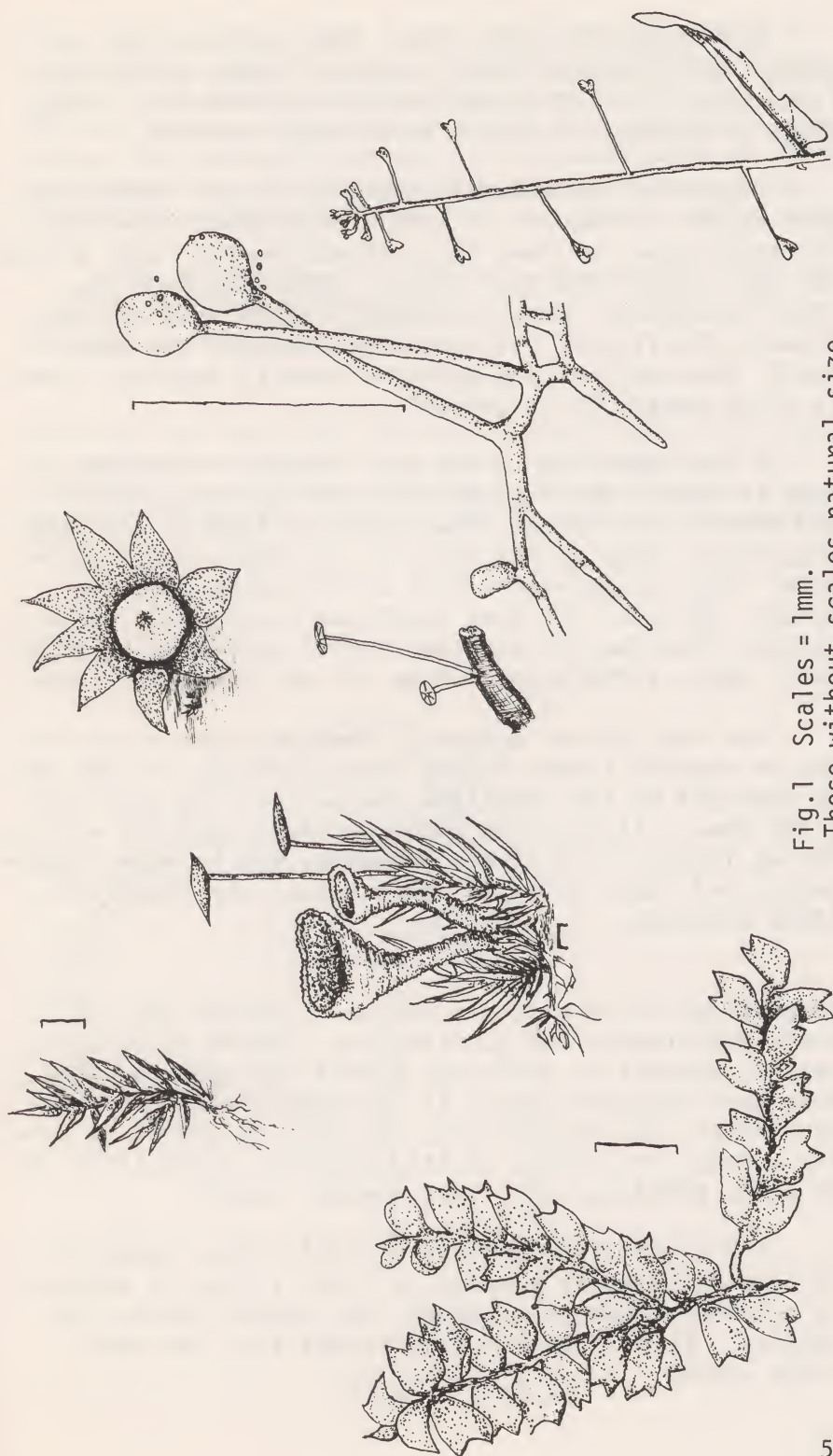


Fig.1 Scales = 1mm.
Those without scales natural size

Some suggested questions: What happens here at night? What happens when the ground thaws in spring? Trace your piece of ground through the seasons, in all kinds of weather, and note everything observed.

Suggested questions to ask the plants: What does each appear to require to live and to grow? How does the area appear to meet these requirements? What plants are associated with each other? Why? How does the plant reproduce? Does it flower? If so, how are the flowers fertilized? Is this plant mature, and does it seed? How much sun and moisture does it require? Does it occur singly or in groups?

A few questions to ask the animals. Upon what does it feed? How does it feed and eliminate waste? How does it reproduce? What story is told by its body structure? What is its reaction to light, heat, moisture? Does it associate with a particular plant or animal, and does it occur singly or in groups? Is it mature? How does it breathe? Is it nocturnal or diurnal? What is the significance of its colour and shape?

The list can be endless. Some of these questions can be applied to any living thing, and all of them can be answered by the organisms themselves. An excellent guide sheet, filled with such questions and with a space for an illustration of the organism, may be made, reproduced, and taken in large numbers into the field in a field notebook.

- 2 Compare two or more square metres of ground and note their differences and similarities, taking particular note of similar or different plants and animals. How does each creature relate to the others and to the environment? Can you identify the plot of ground by seeing a small collection of its organisms unlabelled? Is it acid, alkaline, dry, wet, shaded, sunny?

ANY plots of ground may be used, from a patch of bare soil, recently cleared, a rock, a lawn, a culvert, to a forest floor or a swamp. The possibilities are endless. This study may be extended into the water quite easily.

- 3 Many more animals than plants have been described by scientists. One may make a careful inventory of the numbers of animals living in or on a single tree, or a smaller plant. This exercise can show why plants dominate the landscape but few of its multitudes of animals are observed. Try to determine whether the observed animals harm the plant, benefit the plant, or do neither.

This last request can have endless ramifications, especially if one attempts to see how a 'pest' may benefit a plant.

- 4 How can what has been learned through these exercises be applied generally? How much does human activity influence the living communities observed? How much has this activity enriched the life of the observer?

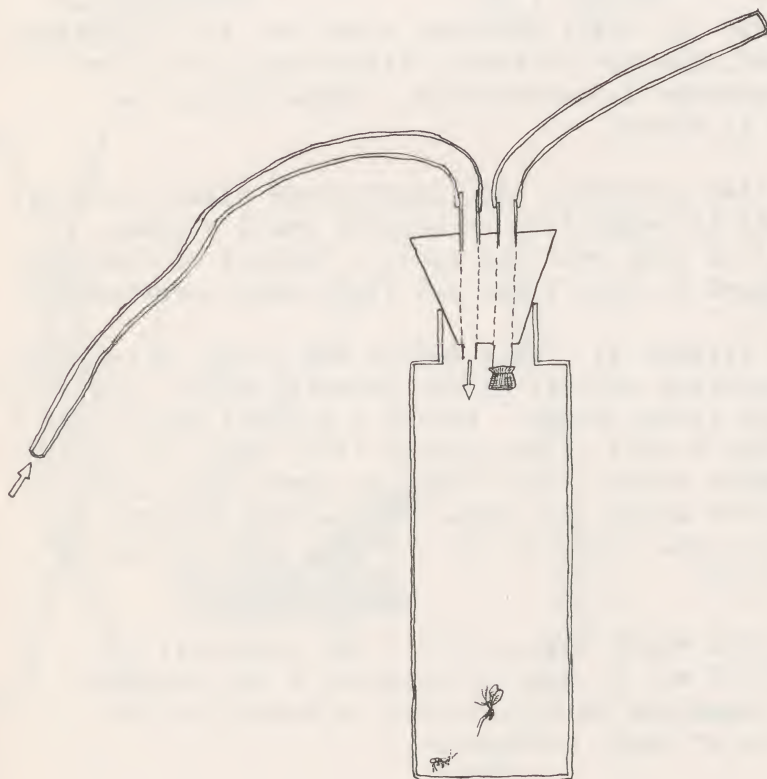


Fig.2 Aspirator

The unlabelled illustrations show representative organisms which may be encountered in studies such as these.

EQUIPMENT

Only a notebook, a pen or pencil, and plenty of curiosity are essential, but the following items may prove useful, especially for close work.

Forceps. Good, pointed forceps which are very easy to close may be purchased from a scientific instrument supply store.

Magnifying glass. A large hand lens may be useful, but if you can read fine print you may see a very large number of organisms.

Microscopes. If truly detailed study of tiny organisms is intended, the use of both a dissecting and a compound microscope is recommended. These should be available in school.

Pans. A flat porcelain pan, unpatterned black or white, may be held in vegetation to observe small animals which fall or jump onto the pan. A handful of leaf litter placed in such a pan may yield many surprises.

Aspirator (figure 2). This device may prove quite useful in capturing rapidly moving insects, mites, and spiders for closer study. Attach a stopper which has two holes to a vial of the proper size, place two plastic or rubber tubes in the holes as shown, and cover one tube with screen or gauze. By sucking rapidly on the guarded tube, one can use the free end to pick up the organisms.

Vials. A few small vials of 70 - 80% isopropyl or ethyl alcohol may be used to preserve a few examples of those organisms which you wish to sacrifice for examination of their structure.

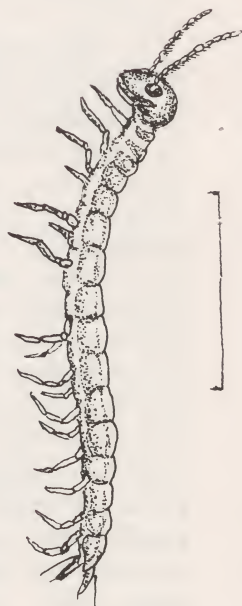
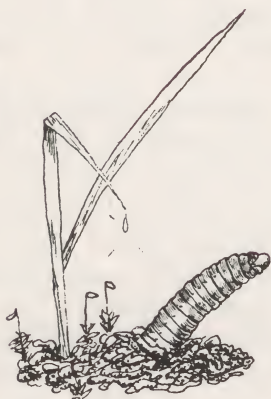
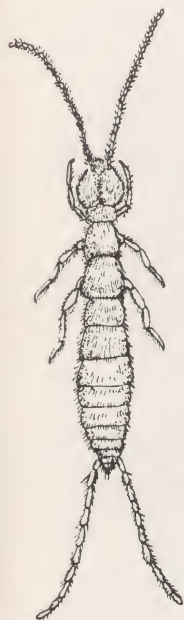
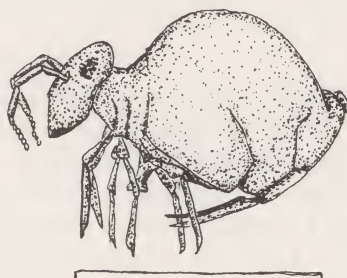
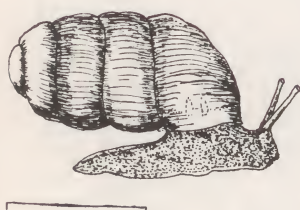
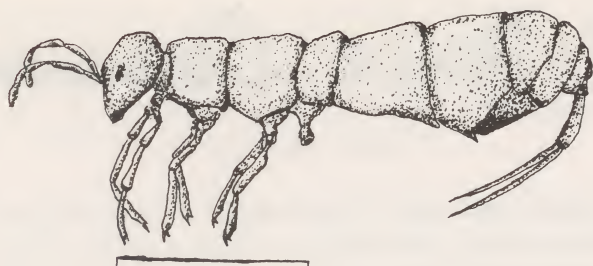


Fig.3 Scales = 1mm.

A White Chipmunk

by Wilmot Lloyd

(Mrs. Lloyd presented this paper at the Annual Meeting of the Federation of Ontario Naturalists, April 1, 1944. Unpublished until now, it was recently submitted to us by her husband, Hoyes Lloyd, who is an Honorary Member of our club. Mrs. Lloyd died on June 11 last, and Mr. Lloyd tells us that her ashes rest at the place where the last white chipmunk was reported. ...Editor.)

When I was asked to prepare this paper I submitted the title "A White Chipmunk". I'm afraid your Program Committee has resorted to a bit of yellow journalism in listing it as an "Albino". You know, there is quite a difference--I'm white--but not an albino! So if any of you would like to leave because you were lured here by a false statement, now is your chance...

This saga of a white chipmunk in our garden in Rockcliffe Park commences such a long time ago that I might almost begin by saying: "Once upon a time"--but it is not a fairy story, so I shall start this short paper with an item from my diary..."July 12, 1931: Today Roy reported a white rat in the thicket near the garage door." At first I paid no attention to this news, because I was quite used to such childish imaginings, but upon thinking it over I decided to go and see for myself. I am a very amateur naturalist--but somehow a wild white rat did not make sense to me. And the weird animal that I saw didn't make sense, either. For there sat a very queer animal. It looked like a chipmunk, and it certainly was acting like one, sitting there busily filling its cheeks with the elm seeds that were scattered over the ground. But its colour was all wrong. Chipmunks aren't white--even I know that! So I looked this animal over very carefully, making mental notes, so that I could describe it later to someone who knew something about such things--and being perfectly sure that my word would be doubted, as it usually was when I started to describe any stranger than usual bird or animal. And my word was doubted,

too, but fortunately for me the next day back came the chipmunk, and this time there was an intelligent witness at hand to verify my observation. It was indeed a white chipmunk, and it was destined to be an interesting visitor to our garden for several seasons.

It was observed frequently during the next six weeks. It was always alone, although three other brown chipmunks would be feeding together quite nearby. They never seemed to invite the little white one to their party--and often would chase it away. The white one was very wary, and spent most of its time in the deep shade, usually at the foot of a tree or in a flowerbed close to the house. It reminded me very much of Kipling's "cat that walked by itself". It would dash out for elm or sunflower seeds, but race right back to some shady spot--or into a brushpile. Very occasionally it would climb onto a dead stump about 2 feet from the ground. I often saw brown chipmunks climb trees, but never saw the white one do this. One favourite perch for it was a little woodpile, about 4 feet high. It was in the shade too. Once I was fortunate enough to have my camera ready when it was sitting on a stonepile, in fair light, and I took one poor picture of it. It certainly never let me get close to it. By August it had disappeared and we assumed it was gone for good. We often spoke of it and wished it would return, but we did not see it again that year.

The next year, on May 19, 1932, we were delighted to look out the window, and there, like it had never been away, sat the white chipmunk! This was indeed a piece of luck for it to return again. So this time I was determined to get near enough to it to photograph it--if possible. The next two months I spent most of my spare time (and some that wasn't spare) chasing around the garden with a 12 pound camera strapped about my neck, trying to outwit one small white chipmunk that was much cleverer than I. It was lucky that in those days films were not rationed, for I used up my quota many times over, and never got a really satisfactory picture. I might add that our neighbourhood is noted for its large and ferocious mosquitoes, and I can assure you that they had many a gory meal as I held my ground waiting for my temperamental little "movie star" to come forth and be photographed. It certainly was allergic to cameras!

One day when I was hanging out the washing and the chipmunk was watching me from a shady flowerbed, I called to my daughter to get a note-book and take down the following description of it: Colour, white; dark stripe down centre of back; two dark stripes down each side with white between; slight touch of grey on head; eyes black; feet white; pink in the ears; tail white.

Again this year I noticed that the brown chipmunks chased it whenever they saw it--evidently recognizing it as a dangerous blonde--and a pair of house wrens, which had a nest box at the side of the house, never gave it an easy moment, flying at it every time they saw it. I never saw the wrens fly at the brown ones. One day in August I watched the two wrens attack the white one several times. They would sit in a tree watching it feeding, and then suddenly fly at it. I am sure they were pulling white hairs from its back. The poor chipmunk led a very unhappy life. The wrens ended by chasing it right off the lot, staging a real fight with it. Then they flew calmly back to the birdhouse, evidently quite satisfied with the outcome of the fight. I didn't see the chipmunk again for several days. On August 6th the young wrens flew--or should I say bubbled forth--from the birdhouse. For a time there seemed to be a young wren on every twig of the nearby bushes. The parent birds flew frantically around, acting like crazy people, until they had shepherded their family safely away. A strange peace and quiet seemed to fall on the garden after the wrens left--and the next day the white chipmunk was back again. It surely must have realized that its enemies had gone. By the end of August the white chipmunk was gone too and I didn't see it again that year. I saw brown chipmunks up to December 10th (temperature 10°F) and they were reported on the Christmas bird census, which is a very late date for them in our vicinity.

On December 25th I had a report that an eccentric neighbour had caught a white chipmunk in a trap in November, and had thrown the specimen in the garbage can. That news spoiled Christmas for me!

The next spring (1933) I offered a reward to any child who could bring me any news of the white chipmunk--but I had little hope of the reward being claimed.

On April 30th the white one appeared once more in our garden. It did not come near the house, as it had done formerly, and it was quite difficult to find it in the dense undergrowth, but I saw it regularly until May 28th. On that day some boys were seen (and severely scolded!) chasing it down the road toward the cemetery--a half mile away. That was my farewell to the little white chipmunk, for I have looked for it in vain ever since.

Mrs. Allen in her splendid paper "The Habits and Life History of the Eastern Chipmunk - *Tamias striatus lysteri* (Richardson)" published in 1938 by the University of the State of N.Y., states (p14) "We find no records of albino chipmunks". She notes a completely black one taken in Richford, N.Y. in 1929. However I must record here that there is a completely white (albino) specimen mounted in the National Museum at Ottawa (#202, taken at Uxbridge, Ont., in 1889 by R.A.A. Johnson). Also, in North American Fauna - #52 Division of the American Chipmunks, by A.H. Howell, there is reference (p 13) to a complete albino of the subspecies fisheri taken in Saylorsburg, Penn. This specimen is in the Carnegie Museum.

This story should end here--but I have other items to record: On June 3, 1943, ten years after I last saw our little white visitor, Mrs. C.H. Bennett reported seeing a nearly white chipmunk near the Mausoleum, in the cemetery--a half mile from our garden. I visited the cemetery several times during the summer but was not fortunate to see it myself. Several other people observed it and reported it to me. Mr. Howard, the superintendent, says that he saw one white one in 1942, and he felt sure there were two white ones there in 1943. Mr. Cavay, another cemetery employee, told me that he frequently saw a white chipmunk near the Mausoleum in the summer of 1943, and that he noticed it was always being chased by the brown ones. This is probably the same one reported by Mrs. Bennett.

If I am alive this summer I expect to spend some time at the cemetery, looking for white chipmunks. If I am not alive, I shall certainly spend some time there --but somehow I don't think I shall mind too much if I can be sure of having a ghost-like chipmunk as a companion!



CLIFFING

D. F. Brunton
and
J. D. Lafontaine

A
NEW
WORLD
FOR THE
NATURALIST

A cliff is a cliff is a cliff - or is it?
Not at all. For those of us who regularly visit these marvellous areas, each cliff is different...a world unto itself. Though many show similar basic characteristics, each maintains its individuality.

What makes cliffs so special? For one thing, they are open rock. This means that they are exposed to every climatic whim of their environment; this in turn usually--but not always--means that the cliff-face itself is a terribly harsh environment. Relatively few living things are able to withstand the tremendous pressures of survival, but those which do are often rare and amazing organisms.

One can't help admiring the enduring nature of a gnarled old pine or juniper, its roots creeping down into cracks and fissures of the open rock for whatever morsels of soil and moisture may be captured there. Soil is an extremely rare item on cliffs; erosion by gravity, wind, and water quickly eliminates most soil-forming debris. In such places, dessication by the fierce winds is a severe problem, and cliff plants frequently exhibit arctic-type characteristics; a low profile, hairiness and evergreenness are valuable features for retaining water.

Growth is slow on cliffs but so is change. Although a landslide (or more properly, rockslide) may wipe out a portion of the cliff-face, in most cases it is relatively undisturbed. Such phenomena as spring flooding, forest succession, browsing by large mammals and disturbance by man, are lowland problems. Great age is a feature of these places. Centuries-old junipers, pines, and cedars mingle in a strange combination with species far out of their normal range which may have survived here for millenia...but more of this later.

To the naturalist, the cliff provides a unique experience. Here is an area of virtual wilderness--albeit a small piece, but nonetheless, an area where man's meddlings are insignificant.

The Ottawa-Hull District is exceptionally well-endowed with these spectacular features. Along a 40-mile front, the great Canadian Shield plunges abruptly down the Eardley Escarpment to the Ottawa Valley lowlands. Here and there cliffs mark its face, some extending along the escarpment for distances of over half a mile and 400 feet from top to bottom. To say the least, the view from the top of these cliffs is spectacular!

The real attraction of these cliffs for the naturalist is of course the organisms which live on them. Perhaps the most spectacular of these are the plants. Even under the most ordinary circumstances, plants face a wide variety of problems. Those which must be overcome by plants which grow on cliffs, however, are much greater, since all they have to work with is a bit of debris on a rock ledge. Any organism which can flourish in an environment like that commands our respect!

There are plants found on the cliffs of the Ottawa-Hull District which are hundreds of miles out of range. Some species are subarctic, while others are typical of areas far to the south of us. One may well wonder what could have caused them to be here.

In some ways a cliff can be considered a slice of time. When this area had just been released from the great ice sheets of the Wisconsin glaciers some 12,000

to 13,000 years ago, it was subarctic in nature. Species typical of such areas as Hudson Bay and the arctic islands of today were then common in the Ottawa-Hull area. As the climate warmed (with the recession of the glaciers) species more suitably attuned to the temperate climate which was developing moved in, and out-competed these 'northern' plants. But not so on some of our cliffs. For species which have evolved to grow on the gravel soils of an arctic environment, the cliffs provided excellent refuge from the invasion of southern species which could not tolerate the harsh cliff environment. Today, on several cliffs in this area, you can see species such as the mustard, Whitlow-grass (Draba cana) and the Bluebell (Mertensia paniculata). These species are far south of their normal range, and are the last relicts of the flora which abounded here thousands of years ago. It is a rather awesome experience to stand before a seemingly insignificant little plant and realize that its kind have survived there for perhaps 10,000 years!

Don't get the impression that all cliffs are cold, harsh environments. A south-facing cliff will receive more sunlight than the lowland and hence will have a warmer microclimate. It may also receive somewhat more rainfall due to its elevation. If the slope is not too steep, and the debris has accumulated to form soil (a condition more frequent on softer, more friable, marble cliffs than on the resistant granite or siliceous cliffs), a 'southern-type' situation may develop. Southern cliff ferns and other 'light-seeded' plants which are wind-dispersed may get a foothold in these places and survive nicely, sometimes hundreds of miles out of range.

A recent spectacular example of this was the discovery of the Blunt-lobed Woodsia (Woodsia obtusa) in the District. Only the second location for this fern in Canada, it was found on a warm south-facing marble cliff-slope in the Gatineau Park, with many other species nearby. The Purple Cliff-brake (Pellaea atropurpurea), Walking Fern (Camptosorus rhizophyllus), Maidenhair Spleenwort (Asplenium trichomanes) and Ebony Spleenwort (Asplenium platyneuron) and other, somewhat less exceptional examples of this.

At one time the Ottawa-Hull area experienced a period when the climate was significantly warmer than it is today. This permitted species which are now found much farther south to migrate into the area. Some of them were able to withstand the rigors of cliff life and have persisted on those warmer, south-facing slopes long after the climate cooled to present levels. Such southern trees as Red Juniper (Juniperus virginiana), Hackberry (Celtis occidentalis), White Oak (Quercus alba) and Bitternut Hickory (Carya cordiformis) can be found, sometimes very commonly, on certain cliffs in the District.

There you have it. A new and completely natural world to explore, and much of it has never been explored. Disjunct communities from both the north and the south. Spectacular views. Truly, a naturalist's paradise.

"But how do I go about it?" you may ask. "Surely you're not expecting me to go scampering up a 500-foot cliff!?" Not at all. Take your time and enjoy this new world. Work your way slowly up the talus slope below the cliff (the cliffs along the Eardley Escarpment would be excellent). Don't ignore the talus itself.



Maidenhair Spleenwort

On boulders and in slump areas you will see many cliff- and rock-loving plants, some exceptionally rare. If you feel more adventurous once you have reached the top of the talus, cautiously move along the wider ledges of the lower portions of the cliff-face. Be absolutely sure that you can easily return on the ledge you start out on, if the need arises, and be sure the ledge is 1) solid, 2) not covered by loose debris, and 3) has plenty of good hand-holds. Always go 'cliffing' with someone else, preferably someone as cautious as you are! There are no prizes for taking chances or hurrying. Don't be afraid to say to yourself (and your companion), "there's no way I'm going up there!" As a rule of thumb...when in doubt, DON'T!

Cliffs really are thrilling too. For example, we have been fortunate enough to add four new species of cliff plants (three being ferns) to the Ottawa-Hull District list. We've also had the privilege of observing supposedly rare species in greater abundance than have ever been seen here before.

Living segments of the whole post-glacial history of the Ottawa-Hull area can be glimpsed on these cliffs. A new, yet ancient, world is opened to us; all we have to do is walk (or climb) up and look.

For more specific information on what species one might encounter while cliffing in the Ottawa District, the following references will be of use:

- Brunton, D.F. 1972a. Hackberry on King Mountain. T&L 6:2.
--- 1972b. More Slender Cliff-brake in the Ottawa District. T&L 6:3.
--- and J.D. Lafontaine, 1974. An Unusual Escarpment Flora in Western Quebec. (In preparation).
Cody, W.J. 1956. Ferns of the Ottawa District. Can. Dept. Agric., Queen's Printer, Ottawa.
--- 1957. *Draba lanceolata* in the Ottawa Distr. *Rhodora* 59.
Lafontaine, J.D. 1973. The Blunt-lobed *Woodsia* (*W. obtusa* (Spreng.) Torr.) (Polypodiaceae) in Canada. Can. Field-Nat. 87(1).
--- and D.F. Brunton, 1972. The Purple Cliff-brake *Pellaea atropurpurea* (L.) Link., in Western Quebec. Can. Field-Nat. 86.

Spring & Summer Program

arranged by the Excursions and Lectures Committee
Roger A. Foxall (745-8891), Chairman

On the following pages you will find announcements of the two meetings and many outings planned for the next four months. On page viii is a calendar marked with all the dates so that you will be reminded of the events before they happen. Color-circle your own calendar now or pin this one in a prominent place.

REGULAR MONTHLY MEETINGS

Beginning in May and June, and excepting the summer months, the Club will hold a regular monthly meeting on the second Tuesday of each month. The program at each meeting will feature a talk of general interest given by an invited speaker. Before the talk, the president or vice-president will bring members up to date on Club news and answer your questions. This is your opportunity to keep informed on all Club activities.

The E & L Committee hopes that holding a Club meeting at a regular time each month will meet with your approval. This schedule will continue next fall. Reserve the second Tuesday in every month now.

The Club's vice president, Ewen Todd, will introduce the new schedule on Tuesday, May 14, when several short talks will be presented by members enthusiastic about invertebrates, birds and flowers. On June 11 we will hear Don Smith of Carleton University describe the mammals of the Ottawa area. He will bring skins to aid in identification and will have an outline for you to keep for reference. See pages ii and v for details.

Also on these pages there are notices of the annual meetings of the Federation of Ontario Naturalists and the Canadian Nature Federation. Both meetings give Ottawa members opportunities to broaden their horizons.

Tuesday FIRST OFNC MONTHLY MEETING

14 May

WHAT SOME NATURALISTS DO

Speakers: Various members

Meet: St. Andrews Church

Kent & Wellington Streets

Time: 8:00 p.m.

BIRD WALKS AT VINCENT MASSEY PARK

Introductory course in the basics of bird identification

Saturday 4 May Leader: Loney Dickson (729-1554)
11 " " Arnet Sheppard (722-0991)
18 " " John Kelly (232-3148)
25 " " Stephen O'Donnell (737-5270)

Meet: Vincent Massey parking lot by Heron
Road bridge

Time: 7:30 a.m.

BIRD WALKS AT RAMSAYVILLE MARSH

Sunday 5 May Leader: Stephen O'Donnell (737-5270)
12 " " Roger Foxall (745-7791)
26 " " John Kelly (232-3148)

Meet: Anderson Road at CNR tracks north of
Russell Road

Time: 7:00 a.m.

Walks last until noon. Bring waterproof footwear.

DAWN CHORUS WALK

Saturday 25 May Leader: Rick Poulin (232-4687)

Meet: Take Constance Bay road off Hwy.
17, turn first right (County
road 109) and stop at right
turn past railway tracks.

Time: 4:00 a.m.

Saturday 25 May ONTARIO NATURE WALK - MACOUN FIELD
CLUB STUDY AREA
Leader: Loney Dickson (729-1554)
Meet: K-Mart, Bells Corners
(OC Transpo bus 77)
Time: 9:00 a.m.

On this day federated nature clubs throughout Ontario are sponsoring a nature walk in a co-ordinated effort to introduce the people in the respective communities to a better appreciation of their natural heritage. Members of the public will be welcome. Walk will last until about 2 p.m. Bring a SNACK and INSECT REPELLANT.

MAY AND JUNE EVENING WALKS

These informal walks of general interest begin at 6:30 p.m., weather permitting. Bring INSECT REPELLANT.

Tuesday 7 May BRITANNIA
Leader: Pat Narraway (729-2677)
Meet: Britannia Filtration Plant

Thursday 16 May OTTAWA-CARLETON CONSERVATION AREA,
MOODIE DRIVE
Leaders: Harry & Sheila Thomson
(234-0845)
Meet: Entrance to area (north of
Jack Pine Trail, on the west side of
Moodie Drive

Wednesday 22 May BRITANNIA
Leader: Arnet Sheppard (722-0991)
Meet: Britannia Filtration Plant

Thursday 30 May JACK PINE NATURE TRAIL
Leader: Loney Dickson (729-1554)
Meet: Trail Parking Lot, Moodie Dr.

Tuesday 4 June ABANDONED NYC RAILWAY
Leader: Anne Hanes (749-2400)
Meet: Go east on Russell Road.
Turn right on Baseline then left on
6th Line to end of road. Be careful;
do not take Highway 417!

Thursday 13 June

DOLMAN RIDGE

Leader: Hue MacKenzie (722-8847)

Meet: as for Ramsayville walks

WALKS TO STUDY BREEDING BIRDS

Two walks to study and relate to habitat the breeding birds in different parts of the Ottawa area. The first will be through the coniferous, deciduous and mixed forest areas in the Gatineau Hills. The second will be in the farmland, marshes and small woodlots south of the Ottawa River. Both walks will last until 3 p.m. at least. Bring LUNCH and INSECT REPELLANT.

Saturday 8 June Leaders: Roger Foxall (745-7791) and

Rick Poulin (232-4687)

Meet: East parking lot, N. R. C.,
100 Sussex Drive

Time: 5:00 a.m.

Sunday 16 June Leader: Monty Brigham (728-0855)

Meet: as for Ramsayville walks

Time: 6:00 a.m.

Sunday
2 June

GENERAL FIELD TRIP TO THE MILL OF KINTAIL

Co-ordinator: Mary Stuart (737-5677)

Meet: Outside Simpsons-Sears, Car-
lingwood Shopping Centre

Time: 8:00 a.m.

Don and Joan Keddie have kindly invited the OFNC to visit the picturesque grounds of the Mill. After lunch the walk will continue with a visit to Mary Stuart's property. Bring LUNCH and INSECT REPELLANT.

Sunday
9 June

GENERAL WALK IN THE LAROSE FOREST

Leaders: Bill Holland (234-6705) and George
McGee (733-1739)

Meet: Elmvale Shopping Centre, St.
Laurent Blvd. at Smyth Road

Time: 8:00 a.m.

Walk lasts until about 2 p.m. Bring a SNACK and INSECT REPELLANT.

Tuesday
11 June

OFNC MONTHLY MEETING
MAMMALS OF THE OTTAWA AREA, a talk with slides
and specimens
Speaker: Professor Don Smith (Department of
Biology, Carleton University)
Meet: St. Andrews Church
Kent & Wellington Streets
Time: 8:00 p.m.

Saturday
15 June

SPRING WILDFLOWERS
Leader: Don Lafontaine (829-7273)
Meet: Supreme Court, Wellington Street
Time: 9:00 a.m.

Bring LUNCH and INSECT REPELLANT.

Sunday
23 June

BOTANICAL OUTING - LIMESTONE FLATS AND SECOND-
ARY FOREST
Leader: Albert Dugal (821-2586)
Meet: Billings Bridge Shopping Centre
Time: 9:00 a.m.

Bring LUNCH and INSECT REPELLANT.

Saturday
29 June

BUTTERFLIES
Leader: Don Lafontaine (829-7273)
Meet: Supreme Court, Wellington Street
Time: 9:00 a.m.

Bring LUNCH and INSECT REPELLANT.

Saturday
27 July

BOTANICAL EXCURSION TO KAZABAZUA AND PAUGAN
FALLS
Leader: Ewen Todd (225-4316)
Meet: Supreme Court, Wellington Street
Time: 9:00 a.m.

Bring LUNCH and INSECT REPELLANT.

Saturday
24 August

FALL MIGRANTS - OTTAWA BEACH and SHIRLEYS BAY
Leader: Arnet Sheppard (722-0991)
Meet: Britannia Drive-in Theatre
Time: 7:00 a.m.

Sunday
25 August

FALL BIRDING AT RAMSAYVILLE MARSH
Leader: Roger Foxall (745-7791)
Meet: Anderson Road at CNR tracks north
of Russell Road
Time: 7:00 a.m.

FEDERATION OF ONTARIO NATURALISTS

ANNUAL MEETING 1974

Kingston, Ontario, June 7 - 9

The annual meeting of the Federation of Ontario Naturalists will be at Queen's University this year. It represents a unique opportunity for Ottawa area naturalists to attend this important gathering. If you have always wanted to "be there" but found the cost beyond your means, the Kingston Field Naturalists are on your side. They have arranged for accommodation at Queen's - and it is a real bargain: \$21.00 per person for two nights and three meals! Unfortunately regulations of the University prohibit children under 12 years of age in the residences. There are a number of campgrounds and motels which could accommodate families with younger children at reasonable rates.

The program includes seminars, exhibits, a photo salon and a banquet, in addition to the business meetings.

The following field trips have been planned for Sunday, June 9: wild flowers and birds at the Otter Lake Sanctuary, a 300 acre reserve owned by the Kingston Field Naturalists; an ornithological trip to Amherst Island, an area of diverse habitats in Lake Ontario; a leisurely walk through the Little Cataraqui Creek Conservation Area; an ornithological tour of Prince Edward Point to provide an understanding of how the Point is used by migrants; and a geological and botanical trip to one of the Thousand Islands, Thwartway Island, near Gananoque.

Watch for further details in the FON Newsletter, or call Vi Humphreys, 232-8505.

Let's turn out and give our Kingston friends full support in what looks like one of the best programs yet.

See you there!

CANADIAN NATURE FEDERATION

ANNUAL MEETING - 1974

London, Ontario, August 21 - 27

The members of the McIlwraith Field Naturalists of London will be hosts for the fourth annual meeting. The theme of this year's conference has been entitled "Nature and Urban Man". There will be speakers and discussion groups dealing with this topic on Saturday August 24 and Sunday August 25. The annual business meeting and related matters will also be scheduled for this weekend, as will the banquet, to be held in the magnificent Great Hall of the University of Western Ontario.

Most field trips will be held on Thursday August 22, Friday August 23 and Monday August 26, but there will be a pre-conference back-packing, walking and camping trip along part of Ontario's famous Bruce Trail. Natural features and natural history of various areas of southwestern Ontario and the bordering Great Lakes will be investigated by competent leaders during the program of field trips. Under the leadership of Dr. Peter Peach, geologist, there will be a bus trip to the Niagara Falls area. A one-day bus trip will permit a visit to Point Pelee National Park and Rondeau Provincial Park, both famous for natural history as well as for recreational use by urban man. A visit to the Long Point Bird Banding Station is planned as another field trip. Numerous half-day outings will be available within the city region. Participants will also have the opportunity of visiting the botanist's paradise - the Bruce Peninsula - during a two-day bus trip.

The University of Western Ontario will supply facilities for meetings and lodgings with meals (double and single rooms) for those attending the conference. Numerous motels are also available in London.

Contact the Canadian Nature Federation, 233-3486, for further details.

Spring & Summer Program

MAY

S M T W T F S

			1	2	3	(4)
(5)	6	(7)	8	9	10	(11)
(12)	13	(14)	15	(16)	17	(18)
19	20	21	(22)	23	24	(25)
(26)	27	28	29	(30)	31	

JUNE

S M T W T F S

						1
(2)	3	(4)	5	6	7	(8)
(9)	10	(11)	12	(13)	14	(15)
(16)	17	18	19	20	21	22
(23)	24	25	26	27	28	(29)
30						

JULY

S M T W T F S

	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	(27)
28	29	30	31			

AUGUST

S M T W T F S

				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	(24)
(25)	26	27	28	29	30	31

SOUTH GLOUCESTER

Centered about an unopened road allowance in south Gloucester Township is a rocky tract which rises to a height of 70 feet above the surrounding plain. One feels it is land which has been forgotten about for a long time. An old farm house stands decaying in overgrown fields, the last building to survive from pioneer days. Mixed woods, dense stands of cedar and snow-fed ponds provide richly varied terrain for the naturalist to explore in early spring.

Driving south on Hawthorne Road past Blais Road one is struck by the sudden transition from absolutely flat fields to a wooded ridge. The fields lie on the youngest rocks in the Ottawa area (Carlsbad Formation) which were preserved from erosion because they are on a large block which dropped down along the Gloucester Fault in geological times. On the south side of the Gloucester Fault are three of the oldest sedimentary formations in the region, tilted toward the surface during the faulting process.

The oldest formation, encountered just before reaching Rideau Road, is Nepean Sandstone (dotted outline), which lies directly on the Precambrian rock. The view from the tan-colored sandstone which forms the edge of the ridge begins with the Gloucester plains and sweeps upwards across the Ottawa River to the Precambrian hills in Quebec. Although the northern part of the sandstone ridge has been logged, interesting plants persist. One is the minute moss, Seligeria campylopoda, which was discovered last fall. This species, previously unknown in the region, is seldom found in Ontario at all except along the Niagara Escarpment.

At the intersection of Hawthorne and Rideau Roads exploration on foot begins southward along the road allowance. Southeast of the intersection are several ponds among the sandstone outcroppings. Here is a fine spot for catching the springtime mating performances of snipe, woodcock and the other wetland dwellers. On the other side of the trail from the ponds is a short, weathered ridge of intermixed sandstone and dolomite, an out-



cropping of the March Formation which was deposited on the Nepean Sandstone and is thus somewhat younger (solid outline).

Further along the path, past the old house, lies the first outcropping of the gray dolomite of the Oxford Formation (solid areas), the bedrock below most of southwest Gloucester Township and extending well into Osgoode Township. This first ridge, though, is particularly worth

investigating because its heavily shaded sections support a luxuriant growth of limestone-loving mosses, liverworts and ferns, including the uncommon walking fern (Camptosorus rhizophyllus).

The trail follows the hydro line along the road allowance through a variety of woodland types. Loud quacking from numerous temporary wet spots identifies breeding areas of the wood frog (Rana sylvatica). Searches along the edges of cedar thickets and in moist deciduous woods may reveal the spring orchids, showy orchid (Orchis spectabilis) and yellow lady's slipper (Cypripedium calceolus) which grow here. The latter grows only on calcareous soils and is not often found east of the Rideau River. These are a few of the discoveries to be made in this array of diverse habitats.

While we are walking, we might do well to ponder the future of this delightful area. The Hawthorne Road has just this year been extended south to Rideau Road, and only lack of money has prevented its going all the way to Regional Road 8, even though there is no logical reason for it to do so because the road allowance stops there anyway. Probably the industrial park to the west will not grow further, partly because it already has generated more pollution problems than it knows how to deal with, right at the edge of the March Formation, the most important water-bearing stratum in the region.

At present the draft Ottawa-Carleton Official Plan has designated this area a Mineral Reserve (for the limestone of the Oxford Formation), and has routed the Outer Ring Road diagonally through the heart of it. In our Club's brief to Ottawa-Carleton, we have recommended that the Area be designated a Nature Study and Recreation Area, and that the Outer Ring Road be rerouted through the surrounding flat country. Our brief argues that this land is ideally suited for hiking and skiing trails, and points out that there is an almost continuous line of woods running nearly due south through the Osgoode Bog and almost to Kemptville. One could visualize a trail extending along this belt and perhaps beyond to connect with the Rideau Trail.

And so one feels that this land should not stay forgotten, at least by us. Indeed, we had better educate our politicians to its values before they zone and develop it out of existence.

Another letter...

Editor, T&L

In my opinion the animal having the most detrimental effect on wildlife is the usual villain, man himself. There are just too many of us. Wildlife is far more used to the sight, sound and smell of canines than it is of hordes of humans. There are so many cars down Moodie Drive at the weekends that they overflow the carparks and spill onto the road. The percentage with dogs is relatively small.

I have had personal experience regarding the effect of my dog on the Jack Pine Trail animals. I have, more than once taken my dog, a large dog loose for a walk down the trail and through the woods. We have usually been in search of birds and other wildlife and therefore as quiet as possible. It has invariably been myself rather than the dog who has flushed the grouse, rabbit etc. The dog has been ignored at least as far as movement is concerned. The secret is to go when there are few other humans there, not to leave the dog at home.

Banning dogs will have little effect if any on the nature areas. Keeping their owners at home and letting the dogs out is a much better idea, if a little impractical! Restrict them to leashes if you must. To be sure all dogs cannot be trusted loose.

Dogs need exercise as much as their owners and a family outing in the woods is a fine way for everyone to get some fresh air. The decline in animal populations is something that man will have to face in the wake of his own exploding numbers. Don't blame our 'best friend'.

I should add that wild packs of dogs hunting Gatin-eau deer are something that cannot be tolerated, but are a different thing, far removed from a domestic pet under control.

To divert protest to far more meaningful causes I would think that the permitting of snowmobiles onto Greenbelt and other natural areas is far more worthy of OFNC's attention...

Bruce Barrett
Hazeldean

CONSERVATION ACTIVITIES

In the last issue of T & L members were asked to help in compiling an inventory of significant natural areas near Ottawa. We are very grateful to the 12 people who have replied so far. What about the other 98% of the members of this field-naturalists' club? Surely they must know of some places where they indulge in their professed interest. We need to know of these areas. The inventory will be a continuing file. It is not too late to reread page 24 of the Jan. - Feb. issue of T ? L and tell us of significant areas. Do it now!

The matter of snowmobiles, raised in the letter on the preceding page, has indeed been receiving our attention. This occurred because the NCC recently reversed its policy and opened a snowmobile trail near the Mer Bleue. Although the trail was kept away from the bog, it did cross the Ramsayville Marsh, one of our major bird habitats. It quickly became clear that the machines frequently left the trail to join the ones which had already been illegally operating on the bog. Clearly the trail invited considerable damage and disturbance for both the bog and the marsh, each of which is a delicate and significant natural area. Letters were sent to NCC Chairman Gallant and Cabinet Ministers Basford and Turner explaining in some detail our objections to the Mer Bleue trail.

Shortly before the Jan. 31 deadline, the Club submitted a lengthy brief to the Ottawa-Carleton Planning Board. We discussed many details of the proposed regional plan and suggested revising the boundaries of some of their conservation areas and added several new areas. We opposed the route of the Britannia Parkway and suggested changes to the routes of the Deschenes Bridge and Outer Ring Road to avoid damage to significant natural areas. It is gratifying that the planners have incorporated into their Official Plan all the conservation areas suggested in the brief which the Club's Natural Areas Committee submitted in 1970.

On the route of Highway 416 the Club returned the recent questionnaire and accepted, somewhat reluctantly, the revised route A while opposing the future use of the Pinhey Forest for a connecting parkway.

Allan Reddoch, Conservation Committee

MOSQUITO ABATEMENT IN THE OTTAWA AREA

D. Monty Wood
Entomology Institute
Agriculture Canada



In a short time, perhaps only a few days, the 1974 mosquito crop will be upon us, and once again, no doubt, politicians and civil servants may be exchanging nasty letters in private while the public is calling for the reinstatement of DDT in public. The vast majority of us, however, caught in a three-way crunch between Ottawa's unfortunate physiography, Ontario's tough new pesticide laws, and municipal lack of expertise and foresight, will just have to look forward to hot, dry weather to drive the problem away.

As to Ottawa's physiography, we are almost too well endowed with water. We have a very high snowfall, averaging some 8 feet a year, falling on thousands of acres of poorly drained land, topped off with ample summer rains. Our three rivers all flood at different times, and one of them, the Ottawa, floods twice. All this adds up to an unusual abundance and variety of standing water in both spring and summer, providing ideal mosquito habitat.

Mosquitos must pass the larval stage in standing water. The larvae have no legs, and although they can swim to the bottom rapidly by wriggling from side to side, they are helpless if caught up on a current. They feed by brushing debris from the surface of dead, submerged vegetation with their mouthparts, which are made up of hundreds of hairs with serrated tips; if left high and dry when their pond evaporates, they cannot feed, and perish. To breathe they have two small openings (spiracles) at the tip of a long tube, or siphon, at the posterior end of the body, and can, with one exception, only breathe at the surface of the water. The old technique of putting oil on the water was intended to frustrate this process by destroying surface tension that held the larva suspended by the tip of his siphon. Thus the larvae must alternate between breathing at the surface and feeding at the bottom, which may explain why they shun deep water. Shallow water is also warmer, and may have fewer predators.

Larvae of all species shed their skin four times, passing through four instars, as they grow. The pupa appears at the fourth moult. It resembles a small tadpole and remains motionless at the water surface unless disturbed, when it is capable of very rapid swimming. It breathes through a pair of spiracular funnels just behind the head, hanging upright from the water surface when breathing. Pupal development takes only a few days, and is completed most rapidly in warm weather. When ready to emerge, the pupal skin splits along the back, and the adult mosquito rises up directly into the air, without coming in contact with the water until it spreads its legs to stand on the water surface.

The adult male is content with nectar; only the female sucks blood (as is also true of black flies, deerflies and no-see-ums). After a blood meal, the female retreats for a few days, while the protein from the meal nourishes the developing eggs. Without the meal she could lay few, if any, eggs. When ready to deposit, she seeks out a suitable place to lay her eggs. By this time the breeding pools will have largely dried up, and she must oviposit on relatively dry ground that will become flooded again the following year. Recent research by Dr. Brust in Winnipeg showing that one species, Aedes atropalpus, is attracted, when gravid, to an odour left behind by the developing larvae of her species, raises interesting control possibilities for other species as well. After one such gonatrophic cycle, she may seek a second blood meal and mature another batch of eggs. This can be repeated a third, fourth or even fifth time, and, contrary to popular opinion, cold weather prolongs their life, for it slows their metabolism.

Of the 71 mosquito species so far recorded in Canada, about half of them occur in the Ottawa area. Most of these thrive in shallow, temporary pools, especially those that dry up during the summer. Water for these temporary pools may originate from cold spring floods, i.e. snow melt and river flooding, or warmer, summer floods, as a result of heavy rains. The two types of pools each tend to have their own complement of species, although naturally there is some overlap. The choice of habitat rests with the gravid female, but the distinctions between "spring species" and "summer species" are a result of physiological differences in the egg. Thus,

the spring species hatch only after a long period of diapause, or enforced metabolic arrest, as soon as their eggs are flooded by cold water in April. These, almost exclusively, belong to the genus Aedes, and are spoken of as "spring Aedes". Most of our species are in this category. The larvae grow slowly at first, then more rapidly as the water warms up. By the end of May most of them have pupated and emerged. Some spring Aedes such as A. trichurus can be abundant at first, but soon disappear. Others, such as A. stimulans are exasperatingly long lived; a few may still be found even as late as September, badly battered and minus some legs, still struggling to bite. All spring Aedes, however, can have only one generation a year; even if their eggs are dampened repeatedly, they will not hatch until the following spring.

Troublesome as the spring Aedes can be, they are often greatly outdone in unpopularity by a summer species, Aedes vexans, Canada's mosquito enemy no. 1. A few develop along with the later spring Aedes, but the vast majority appear after the first warm, heavy rains fill roadside ditches and low-lying areas under open, sunlit conditions. They are partial to puddles fouled by livestock, and can be extraordinarily abundant as a result of such enrichment; more than 1000 larvae per half pint of polluted water! Because of the relatively warmer conditions, they can complete their life-cycle in about a week, and be laying eggs before the next set of heavy rains. Like the spring Aedes, they bite during the day as well as at night, especially in the shade. Unlike the spring Aedes, A. vexans can have several generations in a summer; its only requirement is that its eggs must dry out briefly to trigger their development. It was this mosquito that made the wet summer of 1971 what it was.

Another summer species is Mansonia perturbans. Unlike Aedes, it spends the winter in the larval stage buried in the mud of permanent ponds. Its siphon is specially modified for piercing and extracting air from the air canals within the large, fleshy roots of cattails and other emergent aquatic plants. Thus admirably adapted, it need never leave the mud, and is relatively invulnerable to fish, pesticides and dessication. As a result, they are hard to kill. Even the pupal spiracles are

likewise adapted, and only at the last moment, when the adult is ready to emerge does the pupa wriggle free and float to the surface. M. perturbans can be abundant and troublesome; its redeeming feature is that it only attacks for a relatively brief period after dusk and before dawn.

The Ottawa region is also home to several species of Anopheles, which are fortunately relatively scarce. Several years ago, someone, somewhat irresponsibly I believe, raised the spectre of a malaria outbreak in his appeal to reinstate DDT. Our Anopheles once did transmit malaria in the days of Colonel By and doubtlessly still could, but such an accidental occurrence of the disease in an area where it has been absent before has only happened a couple of times in history, when a number of infected troops were simultaneously exposed. Ottawa seldom has even a single malarial case that is not immediately treated to suppress the disease, and thus suppress the chances of an Anopheles acquiring the infection if it took blood. The odds are further greatly reduced by the unlikelihood of an Anopheles showing up to bite at the critical moment.

There is, however, a serious mosquito-borne disease, Eastern equine encephalitis, which can be fatal to humans. Recent outbreaks among horses in New York State and in the Eastern Townships should remind us that we cannot boast that we have no mosquito-borne diseases. The species that has been accused of transmitting EEE is so rare in this area, however, that I only mention it so you will not be surprised if it should some day appear.

Fortunately Ottawa also has a few interesting mosquito species, especially the innocuous little Wyeomyia smithii that passes its larval stage exclusively in the leaves of pitcher plants, where they lie frozen all winter as larvae, until day length becomes long enough to release them from diapause. Other Wyeomyia species occur in the tropics where they breed in the water that collects in the axils of ensheathing leaves of bromeliads.

Last February at a mosquito control seminar in Winnipeg, I was impressed to find that Edmonton and Winnipeg each have extensive mosquito abatement programs. Costing between 25¢ and 35¢ per head of population, each city has

employed a team of people who annually, with helicopter, fixed wing aircraft and ground crew treat all mosquito breeding ponds within several hundred square miles around their cities. To do this they have located, by air and on the ground, as many potential pools as possible, checked each one for larvae, and plotted the whole on aerial photos. All this has not been done in a single year. Edmonton also used to use street foggers against adult mosquitos but has given this up as ineffective. Neither city expects to eliminate all mosquitos but aims to reduce their numbers, and by mounting a vigorous program of public education they have succeeded in eliminating complaints.

Ottawa has done none of these things. Not that I am anxious that they would, for after several summers in the arctic I will be among the last to complain. As naturalists, we may all wish that nothing be done, but I fear a rising vigilante attitude, not only among individuals, (and I have heard dark rumours about bootlegged DDT), but among elected municipal governments, who are frustrated by what they consider overly restrictive legislation in Ontario. Ontario's policy is basically sound and is, I am convinced, designed to minimize unnecessary and careless use of pesticides. In the DDT era, much pesticide abuse in Ontario was traced to wholesale attempts at biting fly abatement. The present alternatives are more selective than DDT and, if used correctly, are just as effective. The ban on DDT has nothing whatever to do with mosquito abundance, for they were just as numerous in the mid-1960's when DDT was in use.

Anopheles
larva



Actual size

If the Ottawa area is to have a program of mosquito abatement that will give us the best reduction for our money with the minimum of environmental alteration, it seems to me that the Regional Municipality is the only authority with both the money and wide-enough jurisdiction to mount a program of the type found in Winnipeg and Edmonton. This will mean having someone on their permanent staff who is trained in mosquito work. No doubt the Region has other insect problems as well. I cannot imagine municipal governments hiring biologists to direct the laying out of roads and sewers, yet they have not hesitated to give their overworked engineers the extra job of mosquito abatement.

Like a cure for cancer, there are many promising new methods of mosquito control on the horizon - hormones to keep them in the larval stage longer, and to disrupt their development, protozoa and nematode worms that parasitize and kill the larvae, even manipulation of their chromosomes (translocations) to bring about sterility and eventual disappearance of the population. For many summers to come, however, we will still need to know where and when the larvae are developing - even if hormones or nematodes can eventually replace larvicides. In the meantime, we shall have to continue to use repellents, particularly those with a high concentration of diethyl toluamide, which is the most effective active ingredient. A concentration of 70% is available and is worth looking for. Some bee veils are made out of fine, black nylon mesh and are not nearly as hard to see through as head nets used to be.

If the mosquito is ever eliminated, and genetic control is the only method so far devised that could conceivably bring this about, its passing will be mourned by few! Its parasites would disappear with it, along with malaria and the viruses of encephalitis and others. I doubt if any of our small insectivorous birds or bats would actually starve without adult mosquitoes - there are so many more midges available at the same time.

The early describers knew their animal when they coined the names stimulans, perturbans and vexans. To these may be added tormentor, excrucians and others, but the best of all was reserved for a black fly, Simulium damnosum!

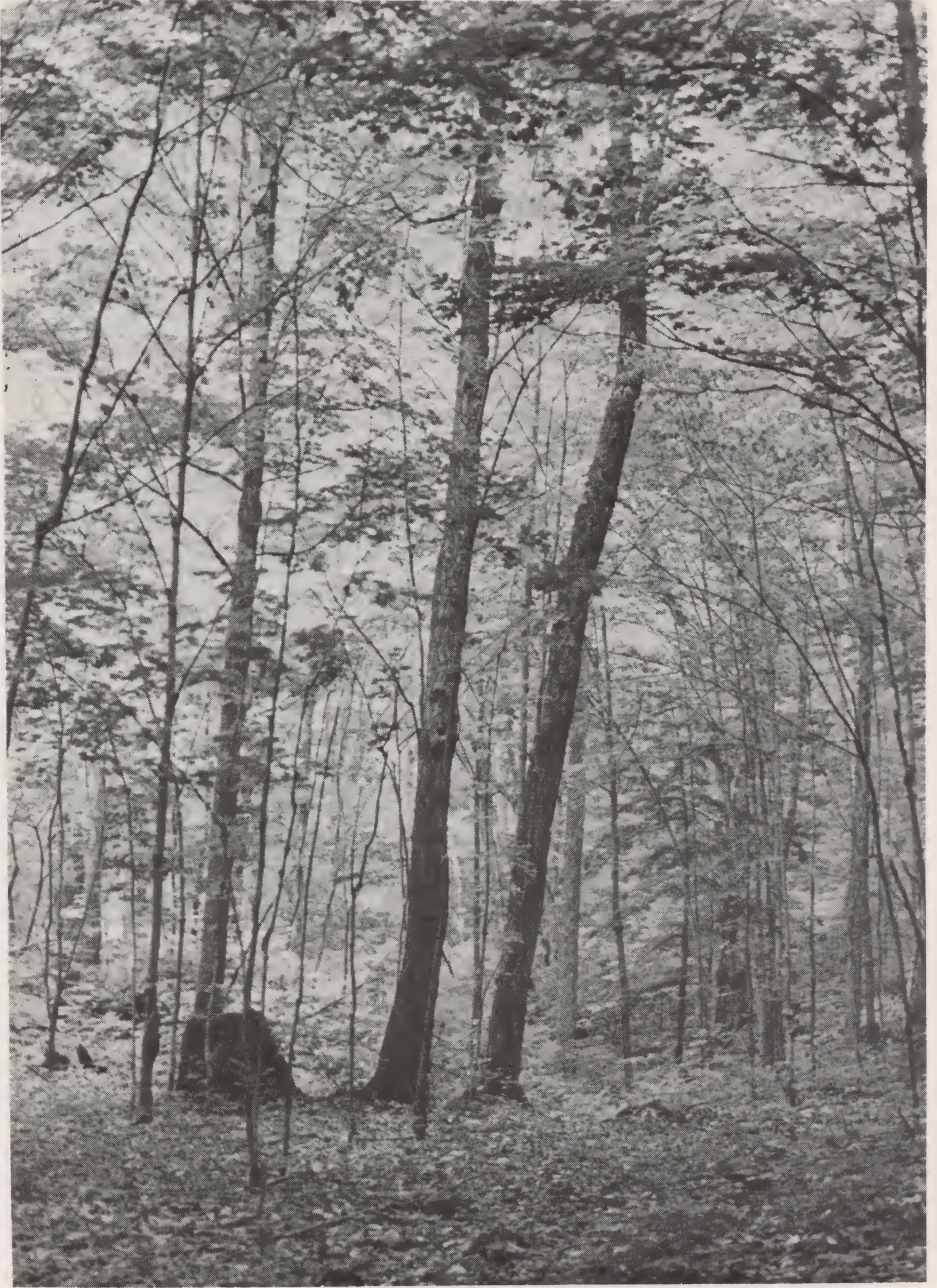


Photo by A. Hanes

FOREST LOVESONG

I have sought to know the forest
even deeper than a friend
her silent shadows sing to me
her voices are my song.

And if I listen with myself
and search as well as see
I see her in as many ways
as there are ways in me.

The fullness comes when searching ends
and all the ways are one
as in the calm I open wide
to let myself flow on.

F. W. Grimm



Yellow Lady's Slippers

by Ann Sutherland

OTTAWA DISTRICT PLANT SURVEY

J. D. Lafontaine and D.J. White

In this and possibly subsequent articles we present information concerning the rarer plants of the Ottawa District. It is our hope to increase awareness of the local flora and thus benefit in two ways from the often valuable observations made by amateurs: 1) knowledge of the distribution and status of the species in the District is obtained and can be used in future studies, and 2) unique and delicate areas in the Ottawa region which should be preserved, can be pinpointed.

Between 1880 and 1893, two lists of the plants of the Ottawa District were published, and updated annually until 1899 in the report of the Botanical Branch of the Ottawa Field-Naturalists' Club. Club members took an active interest in the flora of the District until this report was dropped. With the appearance, in 1958, of a Checklist of Plants of the Ottawa District by Dr. J.M. Gillett, interest was rekindled. Unfortunately, since the list was not annotated, the status of each species was still unknown. In addition, it was based solely on material from the herbarium of the Department of Agriculture, thus species represented in other herbaria and records by amateurs were not included.

We examined the herbaria of the Department of Agriculture and the National Museum to update the Checklist and ascertain the status of plants recorded for the District. The accompanying list included those species which are both native and have not been recorded more than three times. A location at which the species has not been recorded within the past fifty years has been put in brackets. Quebec locations precede the dash (-), those for Ontario follow it. An asterisk(*) denotes an addition to the 1958 Checklist.

Club members are asked to report new locations for species on the list, or rediscoveries at the bracketed locations. Dr. J.M. Gillett, who has begun preliminary work on a revised and annotated checklist, has volunteered to collate the information. Such input would

result in a more accurate checklist. If enough reports are submitted, it may be possible to include an annual summary in Trail & Landscape.

Pertinent information, including:

- the species identified,
- the exact location,
- habitat notes,
- abundance
- the date of the observation,
- the name and address of the observer,

should be put on a 3" x 5" card and sent to:

Dr. J. M. Gillett,
Curator, Vascular Plant Section,
National Herbarium,
National Museum of Natural Sciences,
Ottawa, Ontario K1A 0M8

Due to problems of identification or taxonomy, this List excludes species in Sparganiaceae, Potamogetonaceae, Gramineae, Cyperaceae, Juncaceae, and part of Rosaceae (i.e. Amelanchier, Crataegus and Rubus).

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|---------------------------|---|
| * Lycopodium selago | Ramsay L.; Wilsons Corners - |
| * Selaginella apoda | - Fitzroy Harbour; Innis Point |
| * Woodsia oregana | Poltimore - Kanata |
| * Woodsia obtusa | Eardley Escarpment - |
| Polystichum braunii | Old Chelsea; Gatineau Park west
of Burnet - |
| * Asplenium platyneuron | Wilsons Corners; lower Gatineau
Park - Bells Corners |
| Woodwardia virginica | Hopkins Hole - Mer Bleue |
| * Pellaea glabella | Poltimore - |
| * Pellaea atropurpurea | Eardley Escarpment; Poltimore - |
| Picea rubens | Chelsea; Pleasant Valley;
Farrellton - |
| * Triglochin maritima | - (Mer Bleue) |
| Scheuchzeria palustris | Hopkins Hole - Mer Bleue |
| Symplocarpus foetidus | - Osgoode |
| * Allium canadense | - (Billings Bridge) |
| Streptopus amplexifolius | (Old Chelsea) - (Casselman) |
| Habenaria dilatata | (Johnston L.); Poltimore - (Dows
Swamp) |
| Habenaria blephariglottis | - Mer Bleue |
| Orchis rotundifolia | Poltimore - (Dows Swamp);
(Stittsville) |
| Spiranthes lucida | - Rideau River; Innis Point |
| * Listera auriculata | Fortune Lake - |

- * *Listera australis* - (Mer Bleue)
- Calypso bulbosa* (Wakefield); (Johnston L.); Lac
Gauvreau -
- Aplectrum hyemale* - (Beechwood)
- Saururus cernuus* - Casselman
- Salix pedicellaris* (Hull) - Dwyer Hill; (Mer Bleue)
- Carya ovata* Deschenes - (Casselman)
- Alnus crispa* Kirks Ferry; Chelsea; Gatineau
R. -
- Nuphar microphyllum* (Leamy L.); Cascades; (Hull) -
- Ranunculus cymbalaria* - Cobb L.; Carlsbad Springs
- * *Ranunculus trichophyllus* (east of Deschenes) - (Stitts-
ville)
- Dentaria maxima* - locality uncertain
- Draba cana* Eardley Escarpment; Wakefield -
- Erysimum inconspicuum* - Hazeldean; Dows Lake
- Arabis canadensis* Eardley Escarpment -
- * *Ribes oxyacanthoides* (Wakefield) -
- Hamamelis virginiana* (Buckingham); (Ironsides) -
- Potentilla gracilis* (Hull) - Ottawa West
- Potentilla tridentata* King Mountain - Wrights Cove
on Prescott Highway
- Geum laciniatum* (Hull) -
- Rosa nitida* Eardley Escarpment -
- Lespedeza capitata* - Shirleys Bay; Haycock Island
- Linum lewisii* - Shirleys Bay
- * *Polygala verticillata* - Burritts Rapids
- * *Floerkea proserpinacoides* - (Casselman)
- Rhus vernix* Templeton -
- * *Hypericum pyramidatum* - (Casselman)
- * *Hypericum canadense* (Templeton); (Deschenes); (Kirks
Ferry) -
- Hudsonia tomentosa* - Constance Bay
- Viola affinis* (Aylmer); (Chelsea) - (Billings
Bridge)
- Viola rostrata* (Hull) - (Carleton Place); Marl-
borough township
- * *Lythrum alatum* - Shirleys Bay
- Myriophyllum heterophyllum* - Manion Corners
- * *Myriophyllum tenellum* (McGregor L.) -
- * *Zizia aurea* - (Casselman)
- Angelica atropurpurea* - Carp
- Lysimachia hybrida* - Wrights Cove; Bells Corners
- * *Lysimachia quadrifolia* - Constance Bay
- * *Bartonia virginica* upper Gatineau Park -
- Halenia deflexa* - Kinburn; Huntley Township

Asclepias tuberosa	- Constance Bay
* Phlox maculata	(High Falls) -
* Mertensia paniculata	Eardley Escarpment; Wakefield -
Lithospermum croceum	- Constance Bay
Verbena simplex	- Bells Corners; Stittsville
Teucrium canadense	- Ottawa; Rideau River
Utricularia cornuta	Ramsay L.; (Farrellton) - (Mer Bleue)
* Utricularia geminiscapa	- Mer Bleue
Utricularia gibba	Ramsay L.; Lac Bernard; Lac Charbonneau -
* Utricularia minor	- (McKay L.)
Utricularia resupinata	Wilsons Corners; Lac Bernard -
Lonicera villosa	- (Mer Bleue)
Lobelia dortmanna	Wilsons Corners; Lac Philippe -
Solidago lepida	- Ottawa River; (Dows Swamp)
* Solidago puberula	(Templeton) - (Mer Bleue)
* Aster ericoides	(Templeton) -
* Aster nemoralis	(Cascades) -
Aster ontarionis	- Ottawa River; Cummings Bridge
Aster sagittifolius	- Huntley Twp.; Chaudiere Falls
* Senecio aureus	- (Carp)
Prenanthes racemosa	Pontiac Station - Woodridge
Hieracium paniculatum	Kingsmere -

SPEAKERS, PLEASE

In order to meet an anticipated future increase in the demand for speakers by various groups in the Ottawa area, the Education Committee would like to hear from anyone wishing to participate in either imparting their knowledge of the natural history of the area, or to talk generally about the environment. Both specialists and generalists are invited to submit their names, preferred topics and availability. This kind of active participation in promoting appreciation of the natural environment can be most rewarding and very often quite enjoyable, and might mean, for example, accompanying a Brownie or Boy Scout Pack on a field trip.

Those interested, please call Marey Crain at 829-6798, or Anne Hanes at 749-2400.

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